

CLAIMS

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1. A biologically active polymer product having:  
a polymer substrate; and  
a biologically active compound moiety having a low molecular weight, the portion being covalently bonded to the polymer substrate and exerting selective biological activity, wherein the biologically active compound moiety exerts the selective biological activity while being covalently bonded to the polymer substrate.
  2. The biologically active polymer product according to claim 1, wherein the polymer substrate comprises an organic polymer or an inorganic polymer.
  3. (Amended) The biologically active polymer product according to claim 2, wherein a graft chain is linked to the surface of the polymer substrate and the biologically active compound moiety is covalently bonded to the graft chain.
  4. (Amended) The biologically active polymer product according to claim 3, wherein the biologically active compound moiety is linked to the graft chain through a linkage represented by the formula:  $\text{-NH-C(O)-}$  or a linkage represented by the formula:  $\text{-NH-}$ .
  5. (Modified) The biologically active polymer product according to any one of claims 1 - 3, wherein the biologically active compound moiety is a chemotherapeutic.
  6. (Amended) The biologically active polymer product according to claim 5, wherein the chemotherapeutic is an antibiotic.
  7. The biologically active polymer product according to

claim 6, wherein the antibiotic is at least one antibiotic selected from a group of beta lactam antibiotics.

8. The biologically active polymer product according to claim 6, wherein the antibiotic is at least one antibiotic selected from a group of benzonaphthacenequinone antibiotics.

9. The biologically active polymer product according to claim 6, wherein the antibiotic is at least one antibiotic selected from the group consisting of tetracycline antibiotics, chloramphenicol antibiotics, macrolide antibiotics, and aminoglycoside antibiotics.

10. (Modified) The ~~biologically active polymer product~~ according to claim 1, wherein the biologically active compound moiety has a molecular weight not more than 5,000.

11. The ~~biologically active polymer product~~ according to claim 10, wherein the biologically active compound moiety has a molecular weight not more than 2,000.

12. (Deleted)

13. (Deleted)

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15. (Deleted)

16. (Amended) The method according to claim 29, wherein a monomer ~~forming the graft chain~~ is allowed to be exposed to the polymer substrate in a gas-phase state.

17. (Deleted)

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22. (Deleted)

23. (Added) The biologically active polymer product according to claim 2, wherein the biologically active compound moiety is covalently bonded to the polymer substrate through a side chain.

24. (Added) The biologically active polymer product according to claim 23, wherein the biologically active compound moiety is linked to the side chain through a linkage represented by the formula:  $\text{-NH-C(O)-}$  or a linkage represented by the formula:  $\text{-NH-}$ .

25. (Added) The biologically active polymer product according to claim 3, wherein the biologically active compound moiety is linked to the polymer substrate through a pendant chain.

26. (Added) The biologically active polymer product according to claim 25, wherein the biologically active compound moiety is linked to the pendant chain through a linkage represented by the formula:  $\text{-NH-C(O)-}$  or a linkage represented by the formula:  $\text{-NH-}$ .

27. (Added) The biologically active polymer product according to claim 2, wherein the biologically active compound moiety is covalently bonded to the polymer substrate.

28. (Added) The biologically active polymer product according to claim 27, wherein the biologically active compound moiety is linked through a linkage represented by the formula:  $\text{-NH-C(O)-}$  or a linkage represented by the formula:  $\text{-NH-}$ .

29. (Added) A method for producing a biologically active polymer product according to claim 3, including the step of irradiating the polymer substrate with radiation so as to provide an active site for graft formation.

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